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§ 149. **New Mosses**, by C. F. AUSTIN.

1. **Pleuridium Ravenelii**.—Paroicum, cæspitosum, aureo-viride, sericeo-nitens; caule erecto 1–2 lineas longo stricto simplici et subdiviso parce breviterque stolonifero, foliis erectis strictiusculis inferioribus ovatis et ovato-lanceolatis (infinis in caule longiori squamiformibus appressis) concavis apice complicato-carinatis, superioribus seu perichæatialibus multum majoribus congestis a basi laxa lanceolata vel oblonga vel sæpe obovato-oblonga superne carinata magis minusve raptim in subulam nunc breviusculam nunc longam angustissianam solidam complicato-canaliculatam sublævem subintegerrimam productis, costa lata totam subulam occupante; capsula stramineo-fusca magna toto immersa vel lateraliter emergente rotundo-ovali (raro subovata vel oblonga) apiculo parvo instructa, calyptra minuta obliquata cucullata, sporis pro genere magnis (an maximis?) circiter $\frac{1}{150}$ unc. metientibus luteis papillulosis.—*Pl. subulatum*, SULLIV. *Mosses*, etc.—Light sandy soil, S. Car. *Ravenel*; New Jersey, *James, Austin*; Rhode Island, *Bennett*; Massachusetts, *Jesup*.

Color of the foliage, a changeable yellowish-green. Varies in damp situations, with the stems a little longer, leaves longer and less abruptly narrowed above. The European *Pl. subulatum*, with which this species has hitherto been confounded, has stems a little longer, leaves gradually tapering from a much narrower base into a usually longer, somewhat flexuous, less opaque, simply concave (not complicate), more or less distinctly serrate point, which is papillose-serrate on the back, the lower-most ones never ovate nor appressed, the inner ones of the perichæth much narrowed; capsule ovate, with a larger apiculus; spores much smaller (about $\frac{1}{1100}$ – $\frac{1}{1200}$ of an inch in diameter).—Nearest to *Pl. nervosum*, Hook., as figured and described in *Musc. Exot. t. 105*, but that is described as having the capsule acuminate and rufo-fuscous, the leaves appear to be less abruptly subulate-acuminate and not canaliculate above (a striking character of moss); besides the inflorescence is supposed to be autoicous.

2. **Pleuridium stramineum** (LESQX. olim).—(*Pl. subulatum*, LESQX., in *Pacific Coast Mosses*, p. 5.)—Inter *Pl. subulatum* et *Pl. Ravenelii* subintermedium, a priori differt caule stolonifero, foliis basi latioribus magis convolutis apice vix serratis dorso lævibus, perichæatialibus intimis haud angustioribus, magis subito angustatis, pedicello sæpe longiore, sporis paulo majoribus (circiter $\frac{1}{1000}$ unc. metientibus); a posteriore paulo rubustior, magis stolonifer, foliis longioribus minus abrupte angustatis haud carinatis, sporis minoribus, etc.

3. **Pleuridium Sullivanti**. (*Pl. nervosum*, DRUMM., 2 Coll., n. 6; SULLIV. *Mosses*, etc., haud Hook.)—Stems gregarious, clavate, slender 2–4 lines long, subarcuate, rigid, innovately branched. Innovations filiform, about equalling the stems. Leaves closely imbricated in a julaceous manner, appressed; the lower-most ones and those of the innovations ovate, submucronate, closely and finely serrate-dentate; areolation above close, narrowly and irregularly rhomboidal, below lax, and somewhat quadrate; costa stout, percurrent; upwardly (on the main stems) they are gradually somewhat

enlarged and longer pointed, less regularly and less distinctly serrate; the upper or perichaetial ones are suddenly much enlarged, mostly obovate-oblong or subspatulate, very abruptly cuspidate, erose serrate above; costa percurrent or shortly excurrent; areolation at the base mostly rather long, narrow and straight, or of the innermost ones more lax and subhyaline. Capsule large, when dry round-ovate and very obtuse, with a papulate apiculus, dark brown, shining, of a solid texture, when moist slightly acuminate, immersed on a very short pedicel. Calyptra large, broad, dimidiate-campanulate, entire at the base (but slightly fissured under pressure), split on one side to the base of the slender persistent style, scarcely acuminate. Spores yellow, papillose, about $\frac{1}{1000}$ of an inch in diameter. Antheridia about 3, usually naked, and always completely hidden in the axils of one or two of the lower leaves, but sometimes furnished with a single narrow ecostate perigonal leaf, or, according to SULLIVANT, with 3-5 of these leaves, also with two or three small paraphyses.—Light sandy soil, S. Car., *Ravenel*, 1876.

Readily distinguished from *Pl. Ravenelii*, by its more clavate stems, shorter, and more densely imbricated, not carinate leaves, darker colored, and more solid capsule on a shorter pedicel, larger calyptra, and by the antheridia situated much lower down on the stem (not in the axils of the comal leaves). The true *Pl. nervosum*, as partially figured and described in HOOKER's *Musc. Exot.* t. 105, is certainly different, being nearest to *Pl. Ravenelii*, and possibly identical with it. *Pl. Robinsoni*, Mont., to which Mitten has referred our Moss, has autoicous inflorescence, the male flower being of moderate size, and rather conspicuous; the upper leaves are narrower and less abruptly acuminate with longer points, the lower ones are rather more acute, etc. (I have not seen the spores nor the calyptra.)

4. **Bruchia Sullivanti.** [*Bruchia flexuosa*, SULLIV. Icones (excl. descript.) t. 13; AUST. *Musc. Appalach.* n. 56; haud SCHWÆGR.]—Statura facieque *Br. flexuosa*, sed inflorescentia paroica foliis subpapillois, etc., statim dignoscitur.

Capsule concolorous, the collum much constricted in drying, pale yellow, becoming fuscous. Spores minute (about $\frac{1}{750}$ — $\frac{1}{900}$ of an inch in diameter), yellow, opaque, papillose. Leaves mostly longer than the pedicel (often over-topping the capsule), more or less papillose above (often very obscurely so), nearly or quite entire.—Occurs on damp ground, from New England to Florida and Louisiana.

Bruchia nigricans (S. & L.)—*Br. flexuosa* var. *nigricans* S. & L. *Exsic. Ed.* 2. n. 42. A præcedente proxima distincta sporis fere duplo majoribus, pedicello longiore strictiore. etc. Differt a sequente foliis lævibus collo brevior, etc.—Capsule concolorous? Spores yellow, as in all the species! in size and texture about as in *Br. brevipes*, *Hallii*, *Texana* and *Dounellii*. Leaves nearly or quite as long as in the preceding species. The true *Bruchia flexuosa*, SCHWÆGR., with autoicous inflorescence, and with spores about as in *Br. Sullivanti*, is given in S. & L. *Exsic. ed.* 2, n. 41. The specimens were probably collected in Ohio. I have not seen it from any other source.

5. *Bruchia Dounellii*, *n. sp.*—Paroica; statura *Br. flexuosæ*, pedicello strictiori, foliis a basi subrotunda subitius subulata distincte papillosa, capsula bicolore? collo longiori crassiore, sporis fere duplo majoribus.—Florida, *J. Dounell Smith*.

Inflorescence, long thick collum of the capsule, and (large) spores, as in *Br. Texana*, AUST.; but that has much shorter, smooth leaves.—*Br. Hallii*, AUST., is also parœcious, and has large spores; but the collum of the capsule is much shorter, as well as are the smooth leaves.

6. *Bruchia Carolinæ*, *n. sp.*—Inter *Br. Ravenelii*, WILS., et *Br. brevipedem*, HOOK., medium tenens, differt a priori calyptra minus papillosa haud turbinata, capsula collo longiori; a posteriori calyptra papillosa capsula minus distincte bicolore; ab utroque foliis brevioribus, pedicello basi valde arcuato, sporis minimis fere lævissimis nitidissimis pellucidis, florescentia prom ore synoica.—South Carolina *Ravenel*, associated with *Br. Ravenelii* and *Br. brevipes*.

Stems very short, gregarious. Leaves nearly smooth, subserrate at the apex. Capsule usually equalling or exceeding the leaves, on a pedicel of nearly its own length, more or less bicolorous, the apex light reddish brown, shining; the collum nearly as long as in *Br. brevipes*. Calyptra globose-ovate, acuminate, papillose. Spores less than $\frac{1}{1000}$ of an inch in diameter, minutely punctulate, remarkably brilliant and pellucid. Inflorescence synœcious (or occasionally autoicous), the antheridia all on one side, at the base of the vaginula.—*Br. Ravenelii* has a shorter, less arcuate pedicel, capsule paler and with a very short collum, calyptra shorter and broader (turbinal), and more strongly papillose, spores about $\frac{1}{300}$ of an inch in diameter (not $\frac{1}{450}$, as stated in SULLIV. *Icones*), papillose and opaque. Leaves much exceeding the capsule, more or less papillose and serrate. Inflorescence always autoicous (male flower very distinct, on the base of the stem).—*Br. brevipes* has longer, smooth and entire leaves; a strongly bicolorous capsule (the upper portion being of a fine red color), on a nearly straight pedicel; calyptra smooth; spores large (about $\frac{1}{800}$ of an inch in diameter), papillose and opaque; inflorescence usually parœcious, with the antheridia in the axil of a single (usually lower) comal leaf, but occasionally with the male flower, as in *Br. Ravenelii* (= *Br. Trobasiana*, DE NOT.?).—*Br. brevifolia*, SULLIV., has inflorescence much as in *Br. brevipes* (usually synœcious), but the male flower, when distinct, larger, and terminating a short distinct branch; capsule bicolorous, but the upper part less deeply colored; spores as in *Br. Carolinæ*.

7. *Archidium Lescurii* (*Archidium phascoides*, DRUMM. *Coll.* 2, *n.* 12).—*A. alternifolio* peraffinis, differt tamen statura majore, colore fulvo-viridi, foliis carinatis angustius areolatis, costa validiore solidiore magis tereti sæpe longe excurrente, margine subuniformiter remote serrulata; calyptra generis (vid. TORREY BULLETIN for March, 1874).—With *Bruchia nigricans*, Raccoon Mountains, Alabama, *Lesqx.*; also Florida, Feb., 1877, *J. Dounell Smith*.

No. 13, of DRUMM., 2d Coll., is *A. Ohioense*, SCHIMP.! This species is readily distinguished from all its congeners by its gemmiform male flower.